Government of Alberta

Alberta

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Retail Market Review

An Update and Review of Market Metrics

Electricity Markets Branch, Retail Policy Section

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Executive Summary

In the Department of Energy's (the Department) June 2005 Electricity Policy Framework Paper[1], the Department recommended changing the design for the calculation of the rate that Alberta electricity customers would pay for electricity as a default rate, should they chose not to, or are unable to participate in the competitive market. The final rate design would incorporate a one-month forward hedge that would offer consumers a price that changed monthly in response to market conditions.

It was further recommended that this one-month forward hedge, now known as the New Regulated Rate Option, or New RRO, be introduced gradually to allow further development of customer comfort with prices that vary monthly and allow additional time for the retail market to develop and mature.

The retail market is in a transition period between the old RRO, which typically included longer-term hedges and offered less price variability, and the New RRO that will be fully in place on July 1, 2010. As of April 2010, the regulated rate is a blend of 20 percent longer-term hedges and 80 percent one-month forward hedge products. On July 1, 2010, customers who have not signed a competitive contract will see that the new RRO move to 100 percent one-month forward hedges.

The Framework Paper indicated that there would be two Departmental reviews to confirm the progression plan to move to the new one-month forward hedged RRO.[2] This paper is the second and final review.

The first review was undertaken in 2007/2008 for the Minister of Energy. Stakeholders were consulted regarding suitable metrics to assess the maturity of the retail market. The first review was provided to the Minister but not released to the market.

The Review

The scope of this final review is to update the metrics from the first review to confirm the continuation of the scheduled change in the percentage blend of one-month forward hedge products remains appropriate. The only two possible outcomes of the Review are confirming the scheduled change in percentage blend, or adjusting the scheduling for the change. The aim of this review is to determine whether the RRO moves to 100% month forward pricing in July 2010.

To confirm the scheduled change in percentage blend, it is necessary to assess whether the RRO design is still satisfying the two fundamental objectives set out in the Framework Paper:[3]

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[1] *Alberta's Electricity Policy Framework: Competitive – Reliable – Sustainable*, June 6, 2005, Alberta Department of Energy, 51 pages.
[2] Ibid; Page 11; "*Two Department of Energy reviews will occur prior to 2010 to confirm that the scheduled change in the percentage blend of longer term hedges with the New RRO remains appropriate, given any unforeseen events. It is expected that the reduction in longer term hedges will continue as planned unless there is a compelling case for slowing the transition to the New RRO that cannot be anticipated at present.*"
[3] *Alberta's Electricity Policy Framework: Competitive – Reliable – Sustainable*, June 6, 2005, Alberta Department of Energy, pages 9-17.

1. Appropriate Protection: The RRO design and related policies must afford consumers with *appropriate protection* during the transition period.
2. Retail Market Development: Any changes in the RRO rate design must make the transition to a New RRO based on one-month forward hedges within a specific and known timeframe, in order to stimulate *retail market development* and give consumers a practical understanding of the appropriate price of electricity.

With the input of stakeholders, the following metrics were chosen to measure the retail market. A summary of conclusions for each metric is provided below.

Customer Switching Rate

On aggregate, more than 30 percent of Albertan consumers have switched to a competitive retailer. This significant development shows that Alberta's competitive retail electricity market is becoming one of the most developed retail markets in North America.

Consumer Awareness

While 73 percent of Albertans are aware of the existence of regulated and competitive retailers, almost half of all Albertans (48 percent) still do not know where to find information about the competitive offers available in the market. This emphasizes the need for more consumer education.

Additional consumer education will empower consumers to make informed choices about electricity provider. It will also give consumers necessary information to understand retailers' product offering and select electricity service that fits their needs and preferences.

Product Diversity

Alberta's competitive retail segment has recovered from its low point in early 2004, when RRO-eligible consumers could choose from one retailer with only two basic products. These customers are now able to choose from five retailers and 15 products.

Price Fluctuation

The data shows that moving gradually to the 100% monthly forward RRO meets the policy objective of moderating the price fluctuations during the transition period.

Price Transparent Wholesale Market Liquidity

A liquid and price transparent wholesale market is important to ensure that regulated rate customers pay a price that is set in a fair, efficient and openly competitive market. A significant contribution to achieve a price transparent wholesale market is organized exchange trading.

In the first review, this pricing method added over 1,600,000 MWh of traded electricity to short-term markets. As of this past year (from July 2008 to June 2009), volume of traded RRO products was over 3,800,000 MWh. This translates to a 2,200,000 MWh increase of liquidity in the forward market.

Market Concentration

With a Herfindahl-Hirschman Index (HHI) of 280, there is presently no concern about concentration risk and potential abuse of market power in the competitive part of the Alberta residential retail electricity market.

Number of Retailers

There are an adequate number of retailers in the market to support the continued move to 100% month forward RRO pricing.

Summary of Conclusions and Recommendations:

After considering the updated Review metrics and all related supportive elements to the retail market, the Department concludes there is sufficient growth and development within the market to support the continued transition to the competitive world. Therefore, the Department recommends that the Government confirm the scheduled progression towards a 100 percent one-month forward pricing hedge.

1 A Historical Perspective of the Retail Market

When the retail market opened to competition in 2001, the government mandated the regulated rate option (RRO). For the first five years, small consumers received a regulated rate that for the most part consisted of long-term hedges, which resulted in relatively stable rates. The first five years also gave retailers time to implement internal systems, marketing plans, and create new products and services. The RRO was intended to be a last resort rate and was necessary to provide time for market participants to make decisions and to ensure that all Albertans would receive electricity during the transition period.

In the Department's approved June 2005 Electricity Policy Framework Paper (the Framework Paper)[4], the Department recommended that small customers have the benefit of an RRO indefinitely. A transitional RRO was developed to gradually introduce a monthly forward hedge over the period from 2005 to 2010.[5] Specifically, during that time, customers would see a regulated rate that is a blend featuring a gradual reduction in the amount of longer term hedges that regulated rate providers purchase on behalf of their customers, combined with a gradual increase in the proportion of the rate based on one-month forward hedges.

There have been four changes in the ratio of short and longer-term hedges since the inception of this New RRO concept. This final review will look at two key components to determine if it is recommendable to move to 100 percent one-month forward hedges:

- Appropriate Protection, and
- Retail Market Development.

It was planned that there would be two reviews to confirm the progression plan to the new one-month forward hedged RRO.[6]

Since the new policy was introduced, RRO providers have continued to negotiate with consumer groups regarding the procurement and pricing methodology for the transitional RRO as well as the development and implementation of systems required to properly price the RRO and make that pricing available to interested customers before the price takes effect. However, stakeholders have also expressed concern regarding the potential for these reviews to initiate radical change into the market before the full realization of the one-month forward hedge.

As the market unfolded, the RRO was the preferred option for most customers, and the anticipated competition for customers emerged more slowly than expected. The government extended the RRO to provide more time for customers to become accustomed to the competitive market, for the

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[4] *Alberta's Electricity Policy Framework: Competitive – Reliable – Sustainable*, June 6, 2005, Alberta Department of Energy, 51 pages.

[5] Ibid, Page 11.

[6] Ibid; Page 11; "*Two Department of Energy reviews will occur prior to 2010 to confirm that the scheduled change in the percentage blend of longer term hedges with the New RRO remains appropriate, given any unforeseen events. It is expected that the reduction in longer term hedges will continue as planned unless there is a compelling case for slowing the transition to the New RRO that cannot be anticipated at present.*"

reduction of more entry barriers for retailers, and to allow more competitive products to emerge. It became clear that a regulated rate would be required as a permanent default rate for those customers who could not or would not take advantage of competitive offers.

With the development of the *Electric Utilities Act 2003*, new ideas for the RRO began to emerge. These new ideas were ultimately enshrined in the *Regulated Default Supply Regulation* (now repealed). The *RDS Regulation* would have featured a regulated rate based on market pricing in the form of the hourly Pool price for all RRO eligible customers. While this option was simple to implement and was in keeping with a pure market approach, it meant that customers not on a competitive contract would not know the price of the electricity they were consuming until after their billing period was over. This concept would have made it difficult for customers to respond to prices and to adjust their consumption behaviour in response to price signals. Consumer groups also expressed their concerns regarding this pricing design, especially given the lack of competitive products for the mass-market at that time. According to the *RDS Regulation*, the hourly Pool price for all RRO eligible customers would have come into effect on July 1, 2006.

In 2004, the Department started working with stakeholders to consider other methods of providing a regulated rate that would allow customers to know and respond to market prices for electricity. The concept of a monthly forward pricing design was the result. This design allows for customers not on competitive contracts to pay a price set monthly rather than an hourly price, and to know the price in advance of the flow of electricity.

However, there were several concerns regarding the new regulated rate:

- Some regulated rate providers had purchased longer-term hedges in order to provide the RRO. They suggested a sudden shift to one-month forward hedge pricing would harm them.
- Customers had faced a price shock in 2001 and 2002, and decision makers were reluctant to introduce the potential for sudden changes to customer pricing for electricity, especially if it meant the potential for more market price exposure.
- To many, electricity is a necessity rather than a commodity. Even though customers were getting used to paying a different regulated rate for natural gas each month, consumer groups were worried about the response of Albertans to variable priced electricity as a regulated rate.
- The new regulated rate design needed to continue to provide market-based incentives for retailers to continue to develop and promote market products, to give customers competitive products as alternatives to default price variability.

Stakeholders had indicated that any material movement away from the implemented RRO design and policy would create more market uncertainty, and could seriously curtail, if not outright stall, the customer choice momentum in Alberta.

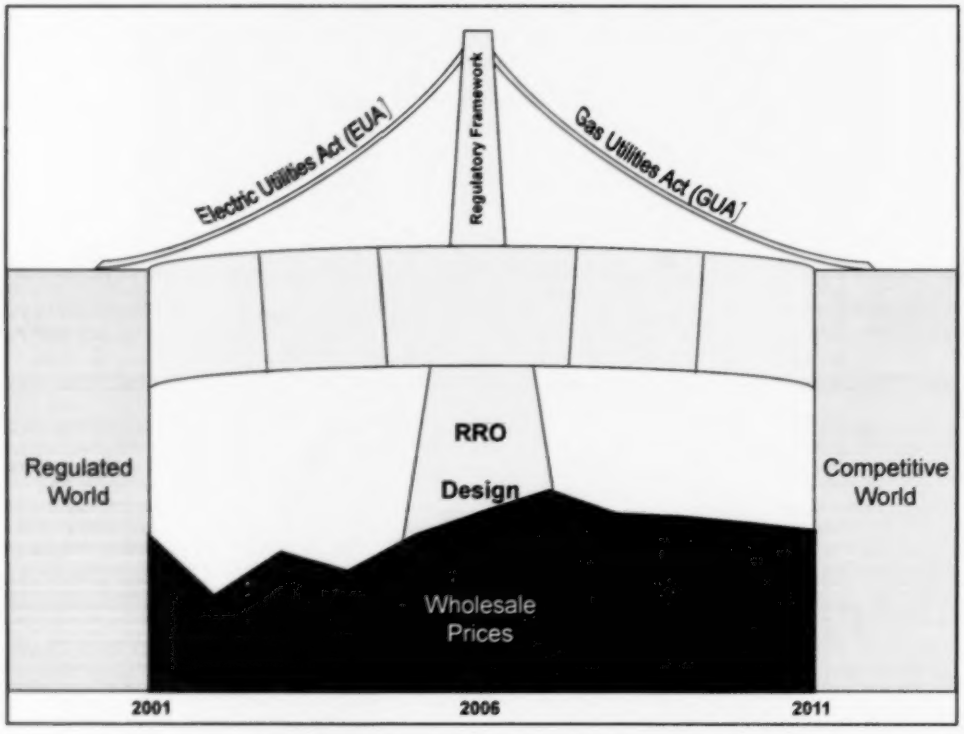
The Department undertook an assessment of the state of the retail market in 2007 and the impact of the new regulated rate design. This second review will confirm if the scheduled change in the percentage blend remains appropriate.

2 A Framework for Discussion – The Transition Suspension Bridge

For the Department to be able to determine if the scheduled change in the percentage blend remains appropriate, it must not look at the RRO in isolation. The Government is committed to developing a competitive electricity retail market in the province, so it is important to take a holistic look at both the competitive and regulated components of the market.

This second review keeps this commitment in mind when evaluating the health of the Alberta electricity retail market. The vision that goes along with this commitment is to ensure a transition to a fully competitive retail market, where the customers who choose not to sign a competitive contract receive a just and reasonable market-based regulated rate alternative, both in the transition period and in the future.

Illustration 1: The Transition Suspension Bridge – Building a smooth transition from a regulated to a competitive world.



To determine whether it is appropriate to continue with the scheduled changes in the regulated rate, while considering the many elements of a holistic review, it is useful to consider the metaphor of a suspension bridge. The "Transition Suspension Bridge" shown in Illustration 1 incorporates all the major necessary elements to bridge the gap between the old regulated world and the competitive world.

The government's role is to ensure all key support elements for a competitive retail market are in place. The ***Electric Utilities Act (EUA)*** and the ***Gas Utilities Act (GUA)*** provide the necessary regulatory framework for the retail market. This ***regulatory framework*** is necessary because investors require certainty to commit their capital to specific undertakings.

An update of the retail market metrics is the primary focus of this second paper, however, this update also looks at the context of overall retail reforms for the natural gas and electricity mass-markets taking place in Alberta.

Specifically, a look at the GUA is important for the electricity retail market, as both customers and retailers want to be able to easily enter into contracts for both gas and electricity; in other words, one-stop shopping. Service Alberta has acknowledged this and has merged their *Electricity Marketing Regulation* and *Gas Marketing Regulation* into one harmonized *Energy Marketing Regulation*. The Department is currently in the process of harmonizing the retail gas and electricity regulations to offer operational efficiencies to the retail market.

A successful and sustainable competitive retail market in Alberta requires the continued support of the government through its policies.

As illustrated above, important policy foundations form a strong bridge. They ensure a smooth and effective transition from the regulated to the competitive world. This second review will continue to look at five policy foundations to ensure the transition is continuing. They are as follows:

1. The ***RRO Design*** underpins the effective and orderly transition from a regulated world to a competitive world. This is the single policy having the greatest impact on the rate of development of a competitive retail market. It determines the regulated rate pricing and supply option for consumers who have not chosen a competitive retailer or for some reason are temporarily or permanently out of that market. The reason it is so vital is that the characteristics of the regulated rate option directly determine whether there are sufficient incentives for retailers and consumers to choose to transact with each other in the new market place. Research done by CAEM supports this: "*The (Default Policy) Forum reached a consensus that default policy was the lynchpin to the success or failure of the retail energy choice program. By lynchpin, the Forum meant that if a state did everything else right but did the default policy wrong, then the program would fail.*" [7]

2. Reducing ***entry barriers*** for both retailers and customers. In Alberta, government in collaboration with industry has already removed many of the major barriers or is in the process removing them.

3. Improved ***operational efficiency.*** The introduction of a Tariff Billing Code, System Settlement Code and standardized terms and conditions for competitive contracts has improved the operational efficiency in Alberta. All of these initiatives are complete. Additional needs identified include metering technologies and standards.

[7] The Centre for the Advancement of Energy Markets (CAEM); "*From Failure to Failure with Great Enthusiasm: Recommendations of the Default Policy for Natural Gas and Electric Retail Consumers*"; April 2004 draft Report.

4. ***Consumer education*** is the keystone of the transition to the competitive world. We have currently implemented the first stage of consumer education. This may become the most significant tool to enable customers to participate in the market.

5. ***Energy Efficiency.*** The Provincial Energy Strategy (PES) has established energy efficiency as a key mandate. Energy efficiency will enable Albertans to manage their own energy consumption and cost. Such tools would include advanced metering infrastructure, microgeneration, information about energy conservation and demand side management. This would allow the Albertans to manage both their energy costs and their environmental footprint.

This paper will review the metrics used in the first review and make recommendations regarding whether it is still appropriate to continue with the scheduled change in the regulated rate.

3 The Genesis of the New RRO

The policy paper *Alberta's Electricity Policy Framework: Competitive – Reliable – Sustainable*, dated June 6, 2005 ("the Framework Paper") recommended a RRO design which gradually transitioned to a New RRO based on a one-month forward hedge during the 2005 to 2010 period. The passing of the *Regulated Rate Option (RRO) Regulation* in December 2005 enacted this policy.

3.1 Description of the New RRO

The New RRO is the regulated rate eligible to all customers that have not selected a competitive electricity retailer. Residential, farm, and small commercial and industrial customers who consume less than 250,000 kWh annually are eligible to receive the RRO.

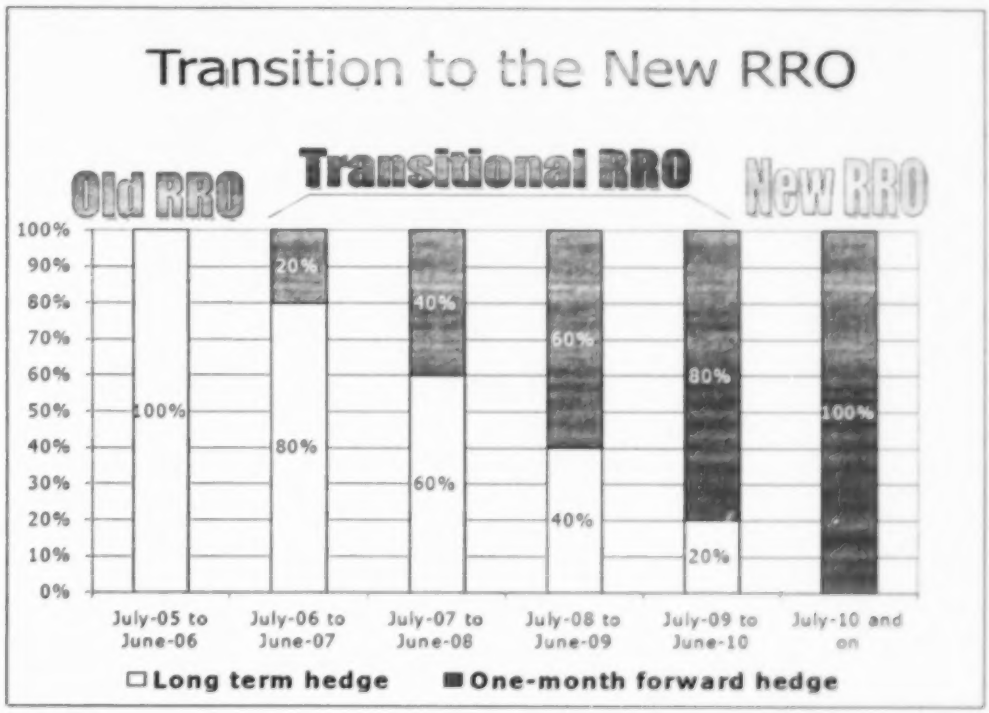
Prior to July 1, 2006, RRO providers submitted yearly electricity purchasing plans to their regulator for approval. These plans included long-term and short-term hedges. At that time, the regulated rates changed on a quarterly basis.

July 1, 2006, marked the beginning of the transition period to a new regulated electricity rate. During this transition, the energy purchased for regulated service included a blend of short and long-term hedges. In 2006, one-month forward hedge products comprised only 20 percent of the regulated rate (see Figure 1). By 2010, the RRO will be comprised entirely of one-month forward hedge products that will vary in price each month.

With the New RRO, electricity rates are similar to natural gas regulated rate pricing practices. Customers see monthly pricing which reflects current market conditions rather than experiencing fluctuations in pricing with lags of three or four months. The new RRO Regulation has also prevented regulated rate providers from flowing through risks to customers in the form of energy rate riders or other billing corrections.

Practically speaking, the RRO is simply one option available in Alberta's retail electricity market. Albertans, who prefer longer term fixed rates, rather than the month-to-month variability of the RRO, can still sign a competitive contract for a fixed period, up to 5 years. More and more Albertans are choosing this option. However, the Government of Alberta does not require customers to sign a competitive contract and they are free to remain on the RRO if they so choose.

Figure 1: Transition to the New RRO



3.2 The Review

The Framework Paper stated that two Department reviews would occur prior to 2010 to confirm that the scheduled change in the percentage blend of long-term hedges remained appropriate, given any unforeseen events. This is the second review, the first review having taken place during fall 2007 to spring 2008.

The Framework Paper goes on to state that the RRO Design must satisfy the following two fundamental objectives:

1. Appropriate Protection: The RRO design and related policies must afford consumers with *appropriate protection* during the transition period.
2. Retail Market Development: Any changes in the RRO rate design must make the transition to a New RRO based on one-month forward hedges within a specific and known timeframe, in order to stimulate *retail market development* and give consumers a practical understanding of the appropriate price of electricity.

3.3 Rationale for the Chosen RRO Design

The Framework Paper states that the most significant advantage of the chosen RRO design is that it fully embodies the 'transitional nature' of moving toward a competitive retail market for small consumers. It accomplishes this by continuing to provide some degree of price protection by means of a hedged rate containing longer-term contract elements. The *RRO Regulation* has prescribed a gradual reduction by 20 per cent each year of the long-term hedges. Another significant advantage is

that the *RRO* Regulation prescribes that the New RRO component must be one-month forward hedges, and thus there are no needs for price true-ups.

With the gradual introduction of the New RRO based on one-month forward hedges the government intended to give consumers the opportunity to familiarize themselves with retail choice in electricity, knowing there is some protection against price fluctuations built into the regulated rate design. At the end of the transition period, consumers will be much better prepared to make an informed choice about whether to remain with the New RRO or choose a competitive product.

At the end of the transition period, in 2010, the New RRO will be comprised entirely of one-month forward hedge products similar to the design of the current natural gas default rate. The *Default Gas Supply (DGS) Regulation* prescribes that the natural gas default rate must be calculated using the monthly forward natural gas price. The RRO will still be available to all Albertans but with a different price mixture than in the past.

3.4 Scope of the second Review

The Framework Paper defined the scope of this second review. That is, a review of the percentage blend of the New RRO and longer term hedges.[8]

The scope of this second Review is to update a previously set of relevant metrics to confirm that the scheduled change in the percentage blend of long-term hedges with the New RRO remains appropriate. The outcome of the Review will be to confirm or amend the scheduled change in percentage blend, changing the RRO design itself is not within the scope of this Review.

To be able to confirm the scheduled change in percentage blend, it is necessary to collect metrics that indicate if the RRO Design is satisfying the two fundamental objectives set out in the Framework Paper:

1. Appropriate Protection
2. Retail Market Development

3.4.1 Appropriate Protection

The Framework Paper outlined five key dimensions to *Appropriate Protection* that gives some directions for measuring the RRO Design's performance as it relates to *Appropriate Protection*. The five dimensions are[9]:

1. *Moderation of Price Fluctuations*

[8] The Framework Paper describes the two Reviews:

> *Two Department of Energy reviews will occur prior to 2010 to confirm that the scheduled change in the percentage blend of long-term hedges with the New RRO remains appropriate, given any unforeseen events. It is expected that the reduction in longer-term hedges will continue as planned unless there is a compelling case for slowing the transition to the New RRO that cannot be anticipated at present.*

[9] *Alberta's Electricity Policy Framework: Competitive – Reliable – Sustainable*, June 6, 2005, Alberta Department of Energy, page 14.

The Department has heard concerns voiced by some consumer representatives that if the price volatility experienced in the Pool price flows through to customers in the New RRO rate design, the rate fluctuation could be quite significant. These concerns are reasonable, because it is concerning if Pool price fluctuations flows through too directly to smaller consumers. The Department is confident the one-month forward hedge feature of the New RRO will dampen this variability.

2. Gradual Introduction of a New RRO

A gradual introduction of the New RRO over a period of several years will give the small consumers experience with this rate, and give them more time and a better foundation upon which to base their purchasing decision: whether to stay on the regulated rate or to choose a competitive offering.

3. Consumer Education and Information

Through consumer education and information, the small consumers become better equipped to make their own choices in the electricity market place, whether it is to remain on a regulated rate or choose among different competitive offerings. Education leads to understanding; understanding leads to confidence; and, confidence leads to the courage to enter the market and make one's own choices.

4. Continue to Remove Unnecessary Entry Barriers for Both Consumers and Retailers

Small consumers will be discouraged from signing and renewing contracts, and will avoid entering the market, if the process is confusing and complex and they cannot comprehend the value of entering the market. Committing to a contract must be straightforward and easy to understand so that the customers feel comfortable exercising choice. Similarly, competitive retailers must not face inappropriate barriers or uneconomic complexities, which discourage them from offering retail products to all customer classes in all regions of the province.

5. No Unacceptable Economic Impact in Moving from One Regulated Rate Design to Another

The transition's effects on consumers, moving from one rate design to another, must be minimal, given the potential for confusion for the small consumer market. The Department is confident the recommended transitional design will meet this consumer protection goal.

3.4.2 Retail Market Development

It remains important to look at the RRO portion of the market, but also to look at the competitive side of the market. As mentioned above, the RRO not only intends to afford consumers with appropriate protection, but also to stimulate retail market development. Therefore, it remains prudent to review some key metrics that indicate the progress on the competitive side of the retail market. It is important for the Department to know if the competitive retail market is evolving. Further, it is equally important to know that there are options available for consumers who prefer product features beyond what the RRO offers.

4 Metrics for the Review

The Department will use the agreed upon metrics from the first review to evaluate if the RRO is satisfying the two fundamental objectives (Appropriate Protection and Retail Market Development) set out in the Framework Paper.

Table 1: Review Metrics

Metric	Appropriate Protection	Retail Market Development
1. Customer Switching Rate	☐	☒
2. Consumer Awareness	☒	☐
3. Product Diversity	☐	☒
4. Price Fluctuations	☒	☐
5. Price Transparent Wholesale Market Liquidity	☒	☒
6. Market Concentration	☐	☒
7. Number of Retailers	☐	☒

4.1 Customer Switching Rate

Definition

"Customer Switching Rate" is the percentage of customers who have signed a contract with a competitive retailer.

Analysis

The Alberta retail electricity market has shown a continuous increase in the number of customers switching from the RRO to competitive market products (see figure 2). From January 2002 to February 2010, the percentage of total sites that have switched to a competitive retailer increased approximately from 3 percent to 30 percent. Switching rates in all customer classes have increased.

The commercial and industrial classes have seen the highest increase in switching rate. By February 2010, 82 percent of large commercial and industrial customers switched to a competitive retail contract. During the same timeframe, 47 percent of small commercial/industrial customers switched to a competitive retailer. Commercial and industrial customers are, relative to other customer groups, more sensitive to price volatility, which means they are more aware of their choices, and see the benefits in choosing an electricity retailer.

Residential and farm customer groups have switched at both a lower frequency and overall percentage than other customer groups. As of February 2010, the switching rate for the residential

rate class was 28 percent. That is, more than 1 in 4 Alberta households have chosen to sign a contract with a competitive retailer. The switching rate for farm customers was 19 percent in February 2010.

When compared with other jurisdictions, Alberta has one of the highest switching rates in North America. VassaETT's 2008, World Energy Retail Market Ranking report ranked the Alberta energy retail market as being the 11th most active retail market out of over 50 competitive energy retail markets worldwide in terms of switching rates. VassaETT is a research and advisory agency with focus on utility customer psychology and behaviour as it applies to customer value, market efficiency and demand response within liberalized and smart metering environments.

Another report, the Annual Baseline Assessment of Choice in Canada and the US (ABACCUS), published by the Energy Retailer Research Consortium (ERRC), ranks Alberta's retail market as the third most successful jurisdiction in North America.

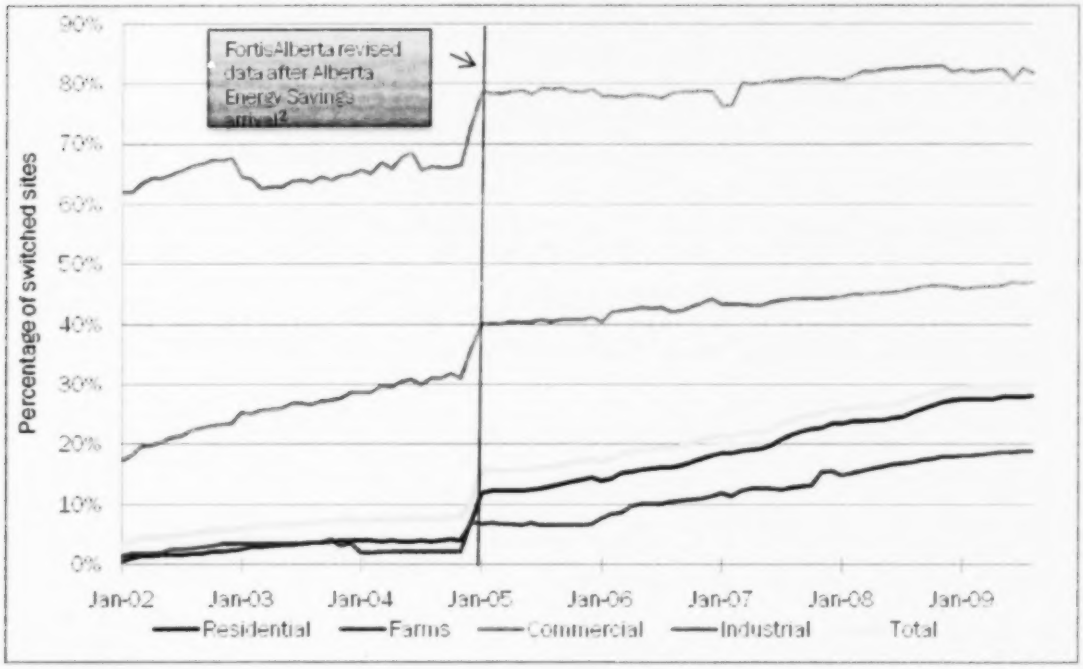
The ABACCUS report measures retail competition using four dimensions:

1. status of retail choice,
2. wholesale competition,
3. default service, and
4. facilitation of the choice of retailer.

Alberta has maintained its' third place ranking for over 2 years. ABACCUS studies 23 other North American jurisdictions in this report.

This switching rate success has appeared despite the absence of any strong or clear consumer education campaigns originating from the Department or any other agency.

Figure 2: Customer Switching Rates January 2002 – January 2009



Conclusion

On aggregate, more than 30 percent of Albertan consumers have switched to a competitive retailer. This significant development shows that Alberta's competitive retail electricity market is becoming one of the most developed retail markets in North America.

4.2 Consumer Awareness

Definition

"Consumer Awareness" measures the level of "consumers who know of the existence of regulated and competitive electricity providers" and "consumers who know where to find information about the competitive offers in the market" as measured by surveys commissioned by the Department.

Analysis

Consumers' lack of awareness is understandable; before 1998, consumers never needed to shop for electricity. In addition, provincial differences in electricity retail markets add another layer complexity in consumers' understanding of the retail market. Ontario is the only other jurisdiction in Canada to have a competitive retail electricity market.

On six occasions between June 2006 and February 2010, the Department commissioned surveys to measure Albertans' awareness of electricity providers and products. Both the formal surveys and anecdotal information gathered by the Department underscore that the major challenge for

consumers in the electricity retail market is lack of knowledge about where to find helpful information.

The latest survey indicates Albertans' awareness of the existence of regulated and competitive retailers is relatively stable. However, more Albertans now know where to go to find information. The surveys also revealed that competitive retailers approached more consumers in 2009 than in 2006.

Table 2: Consumer Education Rates 2006-2010[10]

	Jun-06	Jan-07	Aug-07	Aug-08	Jan-09	Feb-10
Consumers who know of the existence of regulated and competitive electricity providers	74%	77%	72%	74%	67%	73%
Consumers who do ***not*** know where to find information about the competitive offer available in the market	54%	55%	50%	51%	45%	48%
Consumers who have been approached by a competitive retailer	37%	36%	40%	42%	40%	46%

In March 2009, the Department conducted an education campaign to raise the awareness of Albertans regarding their choice of electricity retailers and where they can find more information about their electricity choices. The campaign consisted of advertisements using radio, weekly newspapers and online/internet. The Department commissioned Ipsos-Reid to conduct a post-campaign survey to measure the effectiveness of the awareness campaign.

After the campaign, consumers' knowledge of where they can go to obtain information about their electricity choices increased 10%, rising from 34% to 44%. In addition, Albertan's awareness of the two main categories of electricity providers in the province increased 2%, rising from 62% to 64%.

Conclusion

While 73 percent of Albertans are aware of the existence of regulated and competitive retailers, almost half of all Albertans (48 percent) still do not know where to find information about the competitive offers available in the market. This emphasizes the need for more consumer education.

Additional consumer education will empower consumers to make informed choices about electricity provider. It will also give consumers necessary information to understand retailers' product offering and select electricity service that fits their needs and preferences.

[10] Error rate of 3.3%, 19 times out of 20.

4.3 Product Diversity

Definition

"Product Diversity" is the different types of products offered by competitive retailers. This includes such variables as contract length, fixed or variable pricing, the inclusion of green energy, different terms and conditions (e.g. exit fees), and the bundling of electricity service with other products (e.g. natural gas or HVAC services).

Analysis

When the retail market first opened up to competition on January 1, 2001, two incumbent utilities; ENMAX and EPCOR, were the only competitive retailers offering a limited range of long-term fixed price electricity products.

Table 3: Residential electricity product offerings snapshot – January 2003

	5 year fixed	3 year fixed	2 year fixed	1 year fixed
ENMAX	Yes	Yes	Yes	Yes
EPCOR	Yes	Yes	-	-

Source: Utilities Consumer Advocate website (http://www.ucahelps.gov.ab.ca/186.html).

By the end of 2003, EPCOR chose to leave the competitive retail segment for RRO-eligible customers. As a result, that segment of the competitive retail market was serviced by a single retailer.

Table 4: Residential electricity product offerings snapshot – January 2004

	5 year fixed	3 year fixed	2 year fixed	1 year fixed
ENMAX	Yes*	Yes*	-	-

* Prices include ten percent green electricity.

Source: Utilities Consumer Advocate website (http://www.ucahelps.gov.ab.ca/186.html).

Since 2003, a number of key market structure and barrier issues have been resolved, and this helped add two new North America-wide energy retailers to the Alberta market: Direct Energy (2004) and Just Energy (formerly called Alberta Energy Savings) (2005). Other niche retailers serving farm customers also entered the market: ECNG Energy (formerly IQ2 Power), Battle River REA, North Parkland Power REA, Rocky Rural Power Ltd., Southern Alta Rural Energy Division and Central Alberta REA.

Table 5: Residential electricity product offerings – August 2007

	5 year fixed	4 year fixed	1 year fixed	Dual fuel products	Variable price products	Green energy products
Alberta Energy Savings	Yes	Yes	-	-	-	Yes
Direct Energy	Yes	-	-	Yes	Yes*	Yes
ENMAX*	Yes*	-	Yes*	Yes*	Yes*	Yes*

* No early exit fees.

Source: Utilities Consumer Advocate website (http://www.ucahelps.gov.ab.ca/186.html).

By 2007, three retailers, Alberta Energy Savings, Direct Energy and ENMAX, offered environmentally friendly power products. In addition, Alberta's competitive retail market attracted a niche service provider, Bullfrog Power. Bullfrog Power is an Ontario-based green retailer that entered the Alberta market in June 2007. While Bullfrog Power does not retail electricity in the Alberta market, it does allow consumers the ability to 'green' their power consumption for a per kWh 'green fee'.

Since then the retail sector has seen several retailers restructuring their offerings, marketing or, migrating in and out of the Alberta market. Alberta Energy Savings LP restructured changing name to Just Energy LP. UTILITYnet introduced Spot Power Company to the market in November 2009. UTILITYnet has been involved in the Alberta market for over 30 years, offering energy management and utility billing services to REAs. Spot Power is selling the electricity to residential customers and small commercial customers.

This increased competition has led, over the past nine years, to a large increase in competitive electricity products for small customers.

Table 6: Residential electricity product offerings – December 2009[11]

	5 year fixed	4 year fixed	1 year fixed	Dual fuel products	Dual fuel Seasonal	Variable price products	Green energy products
Just Energy	Yes	Yes		Yes			Yes
Direct Energy	Yes			Yes	Yes	Yes*	Yes
ENMAX*	Yes*			Yes*		Yes*	Yes*
Spot Power*						Yes*	
Bullfrog Power							Yes

*No early exit fees.

Source: Utilities Consumer Advocate website (http://www.ucahelps.gov.ab.ca/186.html).

Choices include fixed and variable prices for various terms. Due to the synergies between natural gas and electricity marketing, several retailers offer dual fuel products. Doing so offers customers a single energy bill and reduces their billing and administration costs. Another innovation is the reduction of penalties for early cancellation of a contract. Retailers such as Direct Energy, ENMAX and Spot Power, offer several term products with no exit fees. As the retail market continues to evolve and mature, the number of innovative products sold to RRO-eligible consumers continues to expand.

The current regulated rate, which varies on a monthly basis, also provides competitive retailers with a product against which they can compete. The regulated rate allows its' eligible customer base to choose whether they prefer the characteristics of the regulated rate, or if a competitive product offered in the market serves their needs better.

Conclusion

Alberta's competitive retail segment has recovered from its low point in early 2004, when RRO-eligible consumers could choose from one retailer with only two basic products. These customers are now able to choose from five retailers and 15 products.

[11] REAs have been removed from this table as they do not offer retail services outside of their cooperative.

4.4 Price Fluctuation

Definition

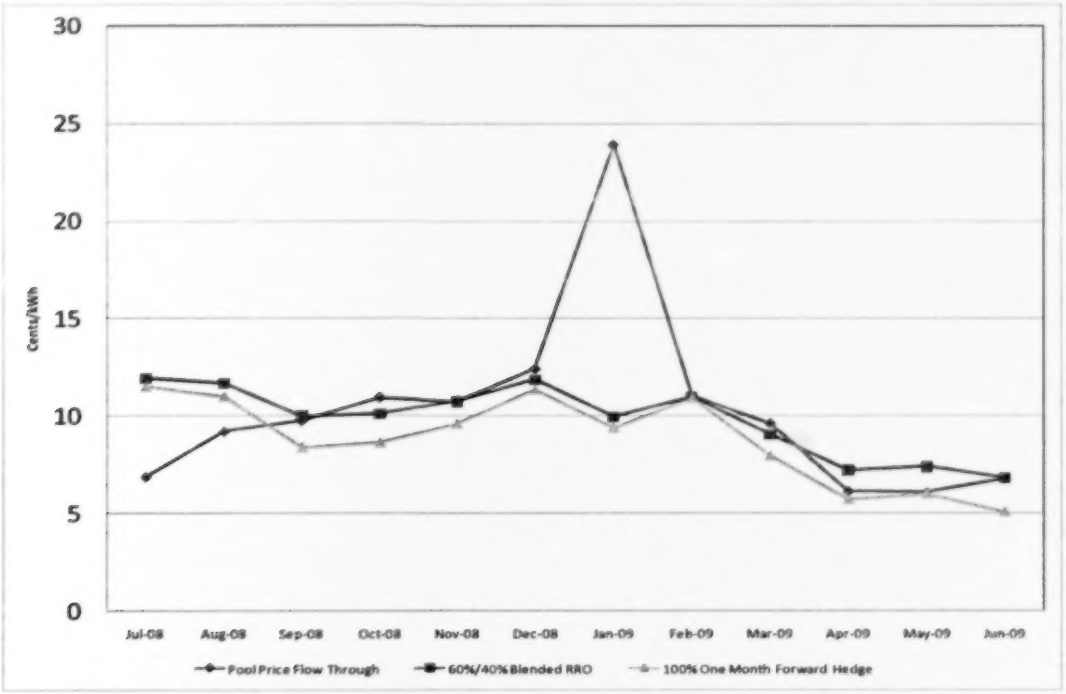
"Price Fluctuation" compares the validity of the originally planned Pool-price flow-through pricing with the transitional RRO at two parts: a 60% blend and 100% monthly forward prices. Data was used from the 2008-2009 timeframe, which was the last full year of data within a single step of blending, had the *RDS Regulation* not been repealed.

Analysis

The Regulated Default Supply Regulation (RDS Regulation) of 2003 planned for a Pool price flow-through, to take effect on July 1, 2006. The passing of the RRO Regulation in December of 2005 replaced the earlier regulation with a gradual transition to a one-month forward hedge over five years. One of the policy objectives for changing from a Pool price flow-through to a one-month forward hedge was to moderate the month-to-month price fluctuations for consumers. Therefore, it is useful to compare the Pool price flow-through with the actual RRO rate to see if RRO design meets this policy objective.

Based on the various Energy Price Setting Plans (EPSPs), the Department decided to use EPCOR as the base case in this analysis because it was the most transparent and the rates were easily accessible through their filings with the AUC. To establish the pricing for a Pool price flow-through product, the Department used EPCOR's Net System Load Shape (NSLS) allocations for hourly consumption for a RRO eligible residential profile in conjunction with the AESO posted hourly prices. NSLS is a method for allocating energy usage over time derived from sample data of average households. The additional information such as posted RRO rates and one-month forward hedge rates was derived from EPCOR's rate filings to the AUC.

Figure 3: Pool price flow-through vs. blended RRO vs. Month Forward Pricing – data for July 2008 to June 2009[12]



As seen above, the actual RRO (from July 2008 through June 2009), which includes 60 percent one-month forward hedges, has moderated price fluctuations that have occurred in the Pool price. However, except for the pricing seen in January 2009, the Pool price flow-through would be highly competitive compared to the actual RRO rates.

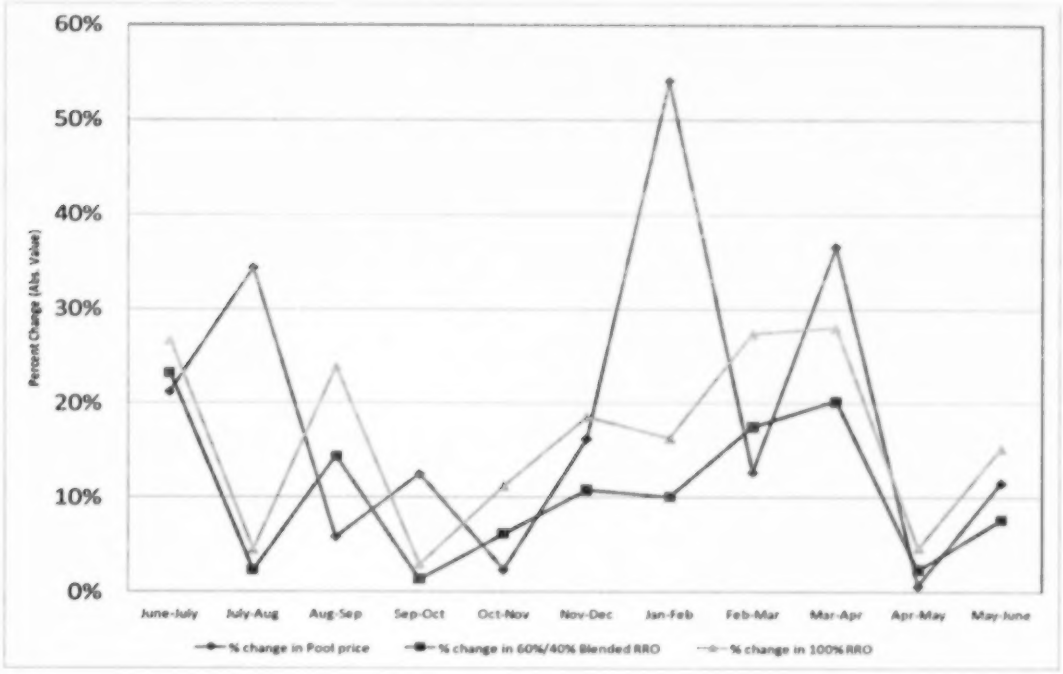
The above figure takes into account not only the Pool price flow-through and actual RRO rates but also what the RRO price would have looked like if it was composed entirely by one-month forward hedges as well. It also shows how the actual RRO fluctuates less than the one-month forward hedge, and that the one-month forward hedge fluctuates less than the Pool price flow-through.

4.4.1 Price Stability

Price protection in the RRO must move beyond the rate per kWh that end use customers pay. It must also reflect the amount of month-to-month variability that a customer may see on their bill. With that in mind, the figure below examines the level of variability that a customer would have seen based on the above data using the Pool price flow-through in comparison to actual RRO pricing from July 2008 through June 2009.

[12] "One-Month Forward Pricing" is the price for the one-month forward hedge reported in EPCOR's RRO filings with the AUC.

Figure 4: Month-to-Month Price Change in Percent



The percentage changes in prices (as an absolute value) for the Pool price flow-through can range anywhere from one percent (April 2009 to May 2009) to over 54 percent (January 2009 – February 2009). For the actual RRO rates, representing the 60% blend, the percentage changes ranged from one percent (September 2008 – October 2008) to 20 percent (March 2009 – April 2009).

Figure 4 indicates that while there may be a moderate change in pricing going forward for regulated rate customers, even with the increased ratio in short-term pricing, the price changes are much smaller than the Pool price flow-through would otherwise have been. Price fluctuations are reduced by 25 to 50 percent over a daily Pool price flow-through rate. Further, by using a forward-looking price model, customers can see prices in advance of their consumption, and may be able, to some extent, adjust their energy consumption and purchasing patterns.

The table below describes the price fluctuations as the average month-to-month price change over the period July 2006 to June 2007.

Table 7: Average monthly price change for the Pool price flow-through, actual RRO and one-month forward hedge for July 2008 to June 2009.

Price Determinants	Average Month-to-Month Price Change (July 2008 to June 2009)
Pool Price Flow-Through	19%
60%/40% Blended RRO	11%
100% One-Month Forward	16%

Conclusion

The data shows that moving gradually to the 100% monthly forward RRO meets the policy objective of moderating the price fluctuations during the transition period.

4.5 Price Transparent Wholesale Market Liquidity

Definition

"Price Transparent Wholesale Market Liquidity" measures the amount of electric energy traded in a price transparent manner on the Natural Gas Exchange (NGX) after the introduction of the new RRO procurement process in May of 2006. The NGX is a leading North American energy exchange based in Calgary and wholly owned by the TSX Group.

Analysis

The Netherlands' Regulator – Directie Toezicht Energie (DTe) has produced a paper in March 2003 that specifically discusses the impact wholesale market liquidity has on the retail market[13]:

> "Energy suppliers need access to competitive wholesale energy commodity and services to underpin competitive offerings to customers. Well-developed wholesale energy markets are therefore fundamental to successful energy liberalization. Liquidity is an essential feature of a well-developed market. Liquid markets enable the immediate execution of standard orders, exhibit prices that are resilient to large orders, and have enough participants trading and sufficient volume to ensure low transaction costs."

The Department sees the benefits of the development of wholesale liquidity in this manner as one of the strengths of the movement toward 100 percent one-month forward hedge procurement for the RRO.

The regulated rate providers price in a transparent manner the majority of the one-month forward hedge electricity volumes required for their RRO using an NGX index product created specifically for the RRO.

The market views NGX's RRO-based offerings as a visible and transparent tool for forward price discovery for month forward electricity procurement. The presence of a forward-looking price signal provides a valuable counterpart to the hourly Pool price, which only reflects current market conditions. A high fidelity forward price signal exemplifies the healthy development of the Alberta electricity market, and permits customers to make decisions based on anticipated future electricity prices.

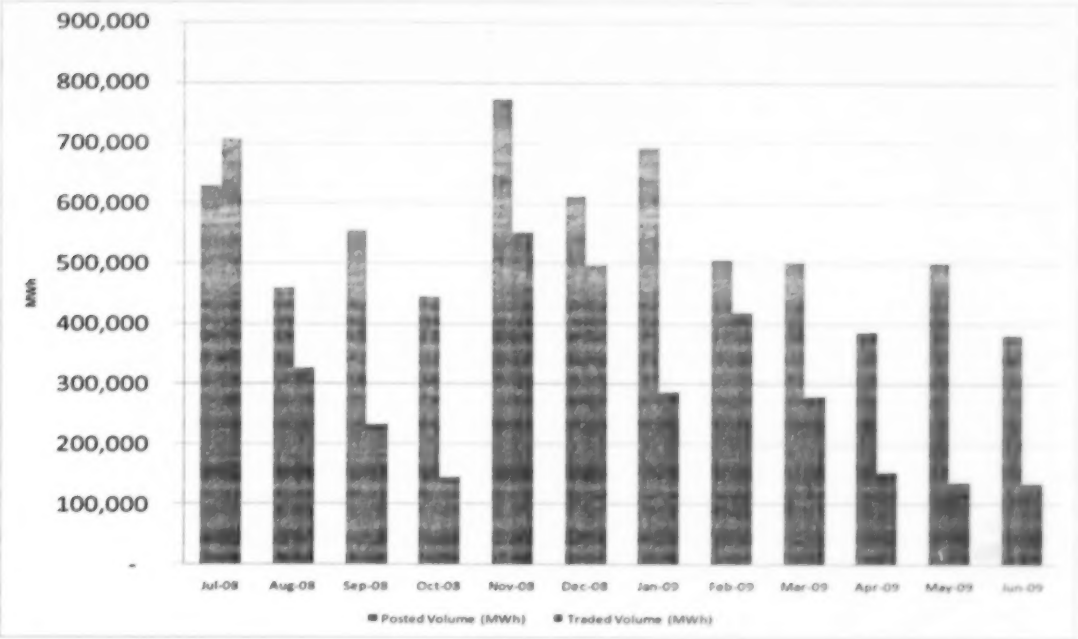
The NGX designed products to match the needs of Regulated Rate Providers in their respective Energy Price Setting Plans (EPSPs). The RRO products on NGX consist of the following products, with their respective days and number of hours in parenthesis:

- Alberta Flat, (a 7 day x 24 hour pricing instrument)
- Alberta Extended Peak, (a 7 day x 16 hour pricing instrument) and,

[13] David Newbery, Nils Henrik von der Fehr, Eric van Damme, "Liquidity in the Dutch wholesale electricity market" (March, 2003), p. 1

- Alberta Super Peak, (a 7 day x 6 hour pricing instrument).

Figure 5: NGX Posted and Traded Volumes (MWh) on RRO Index – Jul 2008 to June 2009.



According to the AESO, total system demand in Alberta exceeded 69,900,000 MWh in 2008. Therefore, the amount of electric energy posted on the NGX represents over 9 percent of the total annual MWh system demand in Alberta and the traded volume represents over 5 percent.

As the month forward share of the RRO has increased, there exist two key benefits. First, the liquidity of the NGX electricity index has increased as more trades have occurred. Therefore, its credibility as an accurate price signal has grown. Secondly, as the month forward share of the RRO increases, smaller RRO providers may find it easier to acquire standard sized blocks of power for their customers. With more liquidity, there is a greater variety of prices and volumes available.

Both the Transitional and the New RRO require high fidelity price signals from the wholesale market. The regulated rate pricing will reflect the integrity of the wholesale market; therefore, it is important that the Market Surveillance Administrator (MSA) continues to have authority for oversight of the wholesale market.

Conclusion

A liquid and price transparent wholesale market is important to ensure that regulated rate customers pay a price that is set in a fair, efficient and openly competitive market. A significant contribution to achieve a price transparent wholesale market is organized exchange trading.

In the first review, this pricing method added over 1,600,000 MWh of traded electricity to short-term markets. As of this past year (July 2008 June 2009), volume of traded RRO products was over 3,800,000 MWh. This translates to a 2,200,000 MWh increase of liquidity in the forward market.

4.6 Market Concentration

Definition

A function of the number of firms in the market and their respective market shares of the overall market defines the term "Market Concentration". As an economic tool, market concentration is useful since it reflects the degree of competition in the market. Some economic models of market interaction predict that an increase in market concentration will result in higher prices and lower consumer benefits.

Analysis

The *Horizontal Merger Guidelines*[14] (HM Guidelines) of the U.S. Department of Justice and the Federal Trade Commission provides means for measuring and defining market concentration. The Herfindahl-Hirschman Index, or HHI, is the measure of concentration that these guidelines use. The HHI is a measure of the size of firms in relation to the industry and an indicator of the amount of competition among them. The HHI is an economic concept widely applied in competition law.

Some stakeholders have suggested the Department needs to calculate the HHI for the residential retail market. The US Department of Justice writes the following about the HHI on their website[14]:

> *"HHI means the Herfindahl-Hirschman Index, a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. For example, for a market consisting of four firms with shares of thirty, thirty, twenty and twenty percent, the HHI is 2600 ($30^2 + 30^2 + 20^2 + 20^2 = 2600$).*
>
> *The HHI takes into account the relative size and distribution of the firms in a market and approaches zero when a market consists of a large number of firms of relatively equal size. The HHI increases both as the number of firms in the market decreases and as the disparity in size between those firms increases.*
>
> *Markets in which the HHI is between 1000 and 1800 points are considered to be moderately concentrated and those in which the HHI is in excess of 1800 points are considered to be concentrated."*

However, the HHI analyzes competitive markets where no regulated options are available. The Alberta residential electricity market has a regulated option available and it is therefore not possible to apply the HHI directly. If a HHI is calculated, it is appropriate to exclude the regulated rate provider's market share, since their ability to exercise market power is restricted through rules and regulations. Regulated rate providers are passive suppliers to customers who choose not to sign a competitive contract.

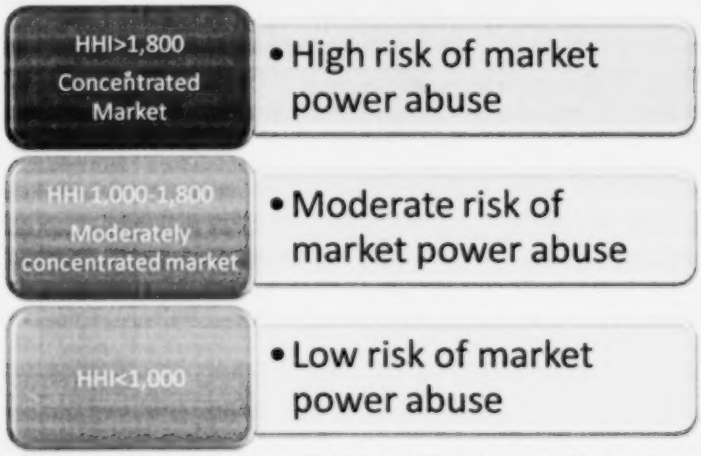
[14] US Department of Justice; http://www.usdoj.gov/atr/public/testimony/hhi.htm

In addition to being passive suppliers, it is also important to remember that there are many regulated rate providers. There are three major regulated rate providers, and, in addition, six other municipalities own their wires and more than 50 REAs own their wires and are responsible for ensuring that the RRO is available to their customers. Moreover, the regulated rate providers are limited, by regulation, to provide one narrowly defined product (the RRO) within its defined service territory, and it was not intended that they would actively attract and retain customers.

The main concern with a high market concentration in the residential retail electricity market is that it could enable a single company to exercise market power towards its competitors or Albertans. Therefore, it is necessary, when calculating its HHI, to use market share percentages of the competitive retailers based on the whole customer base including the RRO customers as market concentration risk applies to the whole customer base.

Therefore, using data provided by the MSA, the HHI for the residential market in Alberta is 280.

Figure 6: HHI and risk of market power abuse.



Based on the HHI calculation, the concentration and risk of the market power abuse in the Alberta residential electricity retail market is currently very low, (HHI=280<1,000). The Department's greater concern is with the ability of competitive retailers to sign contracts with customers from the regulated base and expand the customers' base to be able to compete in a low margin business.

Conclusion

With a Herfindahl-Hirschman Index (HHI) of 280, there is presently no concern about concentration risk and potential abuse of market power in the competitive part of the Alberta residential retail electricity market.

4.7 Number of Retailers

Definition

"Number of Retailers" is defined as the number of retailers serving different customer groups in Alberta's retail electricity market.

Analysis

The number of retailers participating in a market or market segment can be an important indication of the level of competition. However, market characteristics, such as market size, can limit the number of retailers. Therefore, one must not consider number of retailers in isolation when determining the competitiveness of a market. One must also consider product diversity as a critical component of a successful competitive market.

The most robust market segment in Alberta is the large commercial and industrial followed by the small commercial, farm, and residential market segment. Attracting competitive retailers to the farm and residential market segment has been challenging. In late 2003 and early 2004, only one retailer was marketing to the residential market. Now, four retailers are active in the residential market. The most recent energy provider to enter is Spot Power Company. Three retailers and three REAs are competing in the farm segment. However, for the most part these REAs only offer competitive products to REA members within their respective wire service area.

During the lowest level of retail choice, only one retailer was marketing to Alberta's RRO-eligible customers. Currently, there are five retailers serving the residential market (including Bullfrog Power), six retailers providing service to farm customers, six serving small commercial interests and seven servicing the large commercial and industrial groups. Some of these retailers serve several customer groups and a total of 14 retailers are currently active in Alberta's competitive market.

Conclusion

There are an adequate number of retailers in the market to support the continued move to 100% month forward RRO pricing.

5 Summary of Conclusions and Recommendations

Alberta's competitive market framework has been successful to date, with significant new investment in the industry. Several millions of dollars of government agency and private sector monies have been spent to implement and improve processes, systems and policies to make the retail market work more efficiently and produce the needed economies of scale that are vital for mass-market retailers to carry on business here. Several mass-market retailers have entered the market since the introduction of customer choice in 2001.

Major joint industry/government initiatives have improved product offerings and efficiencies, such as the plain language contract initiative, web site reforms, and tariff and billing standardization. While there remain some challenges, more and more Albertans are making their own informed market choices about their natural gas and electricity needs, and relying less on the regulated rate as the fall back option.

The metrics indicate continuing progress toward the development of retail competition and provide indications of the benefits that may arise from continuing the scheduled changes to the regulated rate.

In the Framework Paper, the Department specified two overriding objectives for the RRO:[15]

1. appropriate protection and,

2. retail market development.

The RRO design has met the objective of appropriate protection. The new regulated rate varies month-to-month reflecting current market conditions, yet the new regulated rate removes much of the volatility from the wholesale market. Moreover, since customers are aware of the price of electricity in advance, they can seek to manage their consumption. In fact, a benefit of the regulated rate's market price signal is that it can spur energy conservation during peak months (e.g. December and January), increasing overall system reliability and resulting in positive environmental outcomes. The introduction of the new regulated rate has also spurred a flurry of competitive retail products, enabling customers to choose their preferred level of rate stability.

Customers' and other stakeholders' confidence in Alberta's electricity retail market will depend on the MSA's ability to monitor and address inappropriate conduct in the market place.

The second objective was an orderly transition to the New RRO and retail market development. Retailers require regulatory certainty to feel comfortable in making investment decisions. This requires a predictable, orderly, transition for the RRO, and so far, the Alberta retail and wholesale markets have realized numerous benefits from the stable transition that has occurred. In the retail market, competition and product offerings have increased as retailers compete against one another and against the RRO.

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[15] *Alberta's Electricity Policy Framework: Competitive - Reliable - Sustainable*, June 6, 2005, Alberta Department of Energy, page 10.

To date, the transition to the New RRO has resulted in efficient market outcomes for small customers, retailers, and investors. As the transition continues and the one-month forward hedge share of the regulated rate grows, the benefits will continue to expand.

Recommendation:

Confirm the scheduled progression towards the one-month forward hedge.